Biotoxin Bulletin

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Marine Biotoxins Program Assist Friends of H.L. Hunley

Steve Morton, Laurinda Smith, and Steven Eaker visited the Warren Lasch Conservation Center to tour the conservation of the H.L. Hunley and to examine sediment samples collected before the submarine was raised in August 2002. These samples were collected to determine if the submarine had any small scale local environmental effects on the marine flora and fauna. Harry Pecorelli, an underwater archaeologist, showed Steve, Laurinda, and Steven the 50,000 gallon tank which holds the Hunley as well as other artifacts being conserved at the Warren Lasch Conservation Center. These include two cannons from the CSS Alabama, bottles from the CSS Florida, artifacts of the CSS Georgia, and USS Cumberland.

A Blast from the Past

Eric Finley visited the Program on Mar 22. Eric joined in our Program back in 1992, after working as an undergraduate in John Ramsdell's former laboratory at MUSC. Eric worked with Fran VanDolah for a year to develop microplate receptor assays for marine toxins. He then went to MUSC, where he earned his Ph.D. in Pharmacology before a postdoc at NIEHS and his current job at Wyeth Research Laboratories since 2000. Eric spoke to the Program on standardization of assay methods.

GAD Update

Glutamate decarboxylase (GAD) is an enzyme used to remove glutamate from samples to be analyzed by the domoic acid receptor binding assay. Since glutamate competes with domoic acid for receptors in the assay, failure to remove it may yield false positive results. GAD is no longer commercially available threrefore collaboration with Dr. Daniela De Biase (University of Rome) has been initialized. Dr. De Biase's work focuses on the overexpression of GAD genes in *E. coli*, which has permitted the production of large quantities of this enzyme. Sheean Haley traveled to Dr. De Biase's laboratory to learn her methods to express and purify GAD so this process could be duplicated by the Marine Biotoxins Program. This method to purify GAD will guarantee a continued supply of this enzyme critical for the domoic acid receptor binding assay.

Make Your Concerns Known

Comment Forms are now available outside CCEHBR 222 and on Marine Biotoxins SWAP. This form is a product of our SFA meeting and is intended to bring improvements to the Biotoxins Workgroup. All forms will be filed and secured in Nancy Davey's office. The information in these forms will be discussed by the committee and an overview will be presented to the John Ramsdell. If you have any questions, please feel free to talk to the comment committee; Amanda Barnhorst, Tricia Blair, Bennie Haynes, and Wes Jackson.

In This Issue

On-The-Spot Award Presented at Toxic Donut-flagellate

Greg Doucette presents Stacie Dover with her award

Stacie Dover received an "On-The-Spot" award in recognition of drafting the summary report for the Coastal Research Branch's Survey Feedback Action Meeting. In completing this special assignment outside of her normal job responsibilities, Stacie volunteered to compile, organize, and draft this report. The document was distributed to the Branch staff and lead to the formation of targeted workgroups (e.g., safety & health, awards, work roles & protocols, etc.), which have led to improvements that benefited the efficiency and quality of the Branch's operation.

SCPMN Travels to Myrtle Beach

Heather Blankenstein and Kate Schaefer attended the South Carolina Marine Educators Association (SCMEA) conference on March 14-15. This is the second time that SCPMN has attended this conference. The conference was held at Springmaid Beach in Myrtle Beach. They set up an exhibit with the TV/scope and a local water sample as well as additional outreach materials for interested conference attendees. The keynote address was given by Dave Grant of Sandy Hook Ocean Institute in New Jersey. Many attendees signed up to receive more information on SCPMN and were interested in learning more about the volunteering process. This conference proved yet again to be valuable for continued success of SCPMN.

CCEHBR Manager's Retreat

CCEHBR Branch Chiefs met for a two day retreat (March 4 and 5) to discuss CCEHBR science and management. The first day examined how our center can best meet changing expectations from within and outside NOAA. Future directions were distilled to the following vision for our Center: *CCEHBR Research is nationally valued, sought out and increasingly used to ensure a healthy coastal environment*. The second day examined the organization of our Center, and led to uniform definitions for the Branch and Program levels of organization and a plan to soon be presented that will reorganize branches to have more equitable representation and distribution of resources.

The toxic donut-flagellate committee needs your help. See Ricky Woofter, Yasmine Bottien or Heather Blankenstein if you have a donation for the donut jar.

Marine Mammal Stranding Coordinators Workshop

Tod Leighfield, CCEHBR Marine Biotoxins Program's Analytical Response Team (ART) coordinator, reported on the analysis of domoic acid in marine mammal tissues at a workshop held on February 27th by the California marine mammal stranding coordinators at the Long Marine Lab in Santa Cruz, CA. This workshop summarized the stranding events related to domoic acid intoxication during 2002. The 2002 domoic acid related mortalities in cetaceans, pinnipeds, and otters comprise the second largest marine mammal mortality event recorded in the US. Over 670 pinnipeds were treated at rehabilitation centers and over 90 dead cetaceans were attributed to this event. The confirmation by CCEHBR of domoic acid in marine mammal tissues early in the mortality event allowed the stranding network to coordinate the rehabilitation of live animals and design the stranding response. The successful collaboration stranding network members and resource managers is fostered by the NMFS Office of Protected Species Marine Mammal Mortality Working Group, of which ART team leader, Fran Van Dolah, serves as expert panel member.

Scientist Spotlight
Stephen Eaker

Stephen is currently responsible for preparative production, extraction and isolation of marine algal toxins. Three projects Stephen is currently working on include the toxin production of *Pfiesteria*, *Karenia brevis*, and *Alexandrium monilatum*. Stephen received his BA in Biology from the University of North Carolina at Charlotte (UNCC) in 1992. Outside of work, Steven is an artist; examples of his art can be found at www.artiste-studio.com.

Volunteer Monitoring Data Available on Web Site

Kate Schaefer has compiled and presented volunteer monitoring data from the South Carolina Phytoplankton Monitoring Network on the program's web site (http://www.chbr.noaa.gov/CoastalResearch/SCPMN/). Qualitative data is available for each school, citizen, and park facility that has participated in the program. This data is divided into each sampling site per group because volunteer groups may sample at more than one location. In addition to the raw data on the web site, map layouts for two potentially toxic species (*Dinophysis* and *Pseudo-nitzschia*) found in South Carolina have been added. These are monthly map layouts for each species created through a GIS database. The ability to have this data available in both forms will further promote the understanding of harmful algae/phytoplankton in South Carolina to both the scientific community as well as the volunteers.

Pseudo-nitzschia map layout from the web

Farewell to Mark Busman

We will all be saying goodbye to Mark Busman as he leaves the Marine Biotoxins Program to further pursue his career in the mass spectrometry of proteins and larger biomolecules. He will still be in town as he has taken employment with the new proteomics facility headed by Dr. Dan Knapp on the MUSC campus. Mark helped in bringing analytical measurements to the toxin field via LC-MS and LC-MS/MS. Notably, was his construction of a nanospray front end for the LCQ ion trap MS to aid in the analysis of very small sample sizes with optimal sensitivity. We wish him well in his new endeavors.

Don't forget to nominate someone for an award if you see them going above and beyond the call of duty.

Nomination forms can be found on Mike Twiner's and Kate Schaefer's desk.

Congratulations to Stacie Dover, Amanda Barnhorst, Robert Roberts, and Ricky Woofter!!

Printing Problems Eased

It has been mandated and enforced that any outside printing be done through the Government Printing Office (GPO). In the past, the process of printing through GPO has been long and filled with paperwork. Now we have the privilege to select the vendors we want and deal with them directly. There are a few stipulations that come with this ability. The ability to select local vendors is only available with orders that are $2500 or less. If you have questions concerning outside printing please see Heather Blankenstein or Kimberly Nowocin.